Algebraic Concepts
Lesson 24: Polynomial Operations
Math for Standards

Name _____

Date _____

EQ: What are polynomials and how are the operations applied to them?

A _____ has one term and can be a single number, variable, or both. Terms that have both (such as $3x$, $4ty$, etc.) will be connected by multiplication.

Like terms have the same _____.

Many polynomials can be written in factored forms. This means we can take the polynomial and write it as a _____ of two or more other polynomials.

Like terms can be _____, but unlike terms will be written as the _____ or _____ in polynomial form.

You can _____ polynomials, even if they are not like terms. You can use the _____ property, if necessary.

To divide a polynomial by a monomial, divide _____.

Example 1: Simplify the expression if possible. If not possible, explain why.

a. $3x + 8y - 6x + 4y$

b. $(m^2n^5 - 2mn) - (-m^2n^5 + 2mn)$

c. $(y^2 - 6y + 3) + (-3y - 4)$

d. $15 - (-2a + 5b + 9)$

e. $(12a^2 + 5a^2b) - (9ab + 4b^2)$

Example 2: The length of a side of a rhombus is $3m^2 - 4$. What is its perimeter?

Example 3: Find the product or quotient.

a. $3mn(2m - 3n^2)$

b. $(4x - 2)(2x + 5)$

c. $\dfrac{35a^4b^5}{7a^2b}$

Example 4: The length of the side of a square is $4x^2$ inches long. Find an expression to represent the area and length of the square. Then find each measure when $x = 3$.

Example 5: Matt Mitarnowski is driving at $(x^3 - 2xy)$ miles per hour. How far would he travel in x hours? Find the distance traveled in x hours if $x = 4$ and $y = 3$.